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ABSTRACT

This study was conducted to determine the effects of extracurricular participation on student drug and alcohol use in secondary schools. The study surveyed students in grades 5 through 12 who participated in athletics, government/clubs, and music/drama. Data were collected from 5,639 students from four midwestern schools in suburban/rural settings. The findings revealed that over 70% of the students were involved in one or more extracurricular activities. Twenty-four percent of students in grades 5-12 were involved in athletics, 6.3 percent in government/clubs, and 13.5 percent in music/drama. Twenty-eight percent reported involvement in more than one activity during the school year. Non-participation was greatest in the 12th grade with over 33% of students indicating they did not participate in extracurricular activities. Students were surveyed in reference to use of tobacco, alcohol, marijuana, stimulants and depressants, inhalants, hallucinogens, over-the-counter drugs, and cocaine. Results of the study suggest that extracurricular participation was a factor in reducing student experimentation and use of tobacco, alcohol, and other drugs. Students who participated in extracurricular activities were less likely to use drugs than their counterparts who did not participate. Experimentation and use varied with the type of activity. (NB)

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A STUDY TO DETERMINE THE EFFECT OF EXTRACURRICULAR PARTICIPATION ON STUDENT ALCOHOL AND DRUG USE IN SECONDARY SCHOOLS

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A STUDY TO DETERMINE THE EFFECT OF EXTRACURRICULAR PARTICIPATION ON STUDENT ALCOHOL AND DRUG USE IN SECONDARY SCHOOLS

The purpose of the study was to determine the effects of extracurricular participation on student drug and alcohol use in secondary schools. Extracurricular participation has been viewed as an integral part of the educational process providing students opportunities to develop interpersonal, social, and leadership skills. The study surveyed students in grades 5-12 who participated in athletics, government/clubs, and music/drama. The study focused on the following objectives:

1. Relationship of student participation in athletics on student drug and alcohol use.
2. Relationship of student participation in student government/clubs on student drug and alcohol use.
3. Relationship of student participation in music/drama on student drug and alcohol use.
4. Effect of student non-participation in extracurricular activities on student drug and alcohol use.
5. Effect of student participation in more than one extracurricular activity on student drug and alcohol use.

Data were collected from 5,639 students using a 52 question survey questionnaire. The sample consisted of students from four midwestern schools in suburban/rural settings. Mean income for the county was $35,000. Over 94 percent of the students identified themselves as Caucasian, and nearly 71 percent reported living with two parents. . Over 91 percent of the students indicated higher education (vocational, college) aspirations following high school.

Data were computer analyzed using the Statistical Package for the Social Science (SPSS-X) Program. The chi-square statistic was utilized to determine if a relationship existed between variables. Percentage scores for student extracurricular participation were incorporated to illustrate experimentation and usage patterns by grade level.

The umbrella of extracurricular activities was broken down into three major categories of athletics, government/clubs, and music/drama. Experimentation and use by students who participated in more than one extracurricular activity and students who did not participate in extracurricular activities were included.

Student Involvement in Extracurricular Activities

Examination of data revealed over 70 percent of students were involved in one or more extracurricular activities. The breakdown of student participation suggested 24 percent of students in grades 5-12 were involved in athletics, 6.3 percent in government/clubs, and 13.5 percent in music/drama. Twenty-eight percent of the respondents reported involvement in more than one activity during the school year. Analysis of participation by grade revealed the greatest participation in athletics in the seventh grade (Table 1). Participation in government/clubs peaked in grade twelve with 10.2 percent of the students reporting participation; whereas participation in music/drama was highest in grade six with 19.9 percent of the students indicating they participated in music and/or drama. Student involvement in more than one activity was greatest in the eleventh grade with over 34 percent of the respondents reporting participation. Non-participation was greatest in the twelfth grade with over 33 percent of students indicating they did not participate in extracurricular activities.

Table 1
Percentages for Participation by Extracurricular Activities

Grade	Athletics	Government Clubs	Music Drama	Multiple Activities	None
5	26.5	3.3	3.3	15.7	51.1
6	25	4.7	17.9	23.1	29.3
7	27.2	4.8	13.1	29.4	25.5
8	26.6	4.8	14.9	27.6	26
9	25.5	3.6	14.5	30.8	25.6
10	22.5	9.3	10.7	30.3	27.2
11	20.5	10.2	8.4	34.4	26.5
12	18.2	10.8	13.5	24.4	33.1

Tobacco

Students were surveyed in reference to tobacco experimentation and use. Tobacco was described to students in the survey as cigarettes, cigars, snuff, and chewing tobacco. Experimentation with tobacco increased with each grade level. Tobacco experimentation was reported as 14 percent in grade five and increased to 30 percent in grade seven (Table 2). Over 46 percent of twelfth grade students reported they had experimented with tobacco.

Experimentation with tobacco by students in athletics was greater than for students involved in government/clubs, music/drama, or multiple activities. Forty-two percent of the students in grade eight participating in athletics indicated they had experimented with tobacco; over 50 percent of senior athletes reported they had experimented with tobacco.

Percentage scores for student tobacco use in relation to extracurricular participation revealed differences between activity involvement, grade level, and tobacco use. Tobacco use also increased with each grade. In grade seven, 5 percent of the students indicated they used tobacco. In grade twelve, 16 percent of the students reported they used

TABLE 2
PERCENTAGES FOR TOBACCO EXPERIMENTATION/USE BY ACTIVITY

N	Grade	Experiment Use	Athletics	Government Clubs	Music Drama	Multiple Activities	No Activity	Percentage Total Group
113	5	Experiment	20	0	50	11	11	14
		Use	0	0	0	0	2	1
826	6	Experiment	17	21	14	17	15	16
		Use	1	0	1	2	1	1
960	7	Experiment	38	48	29	24	26	30
		Use	7	0	2	4	6	5
909	8	Experiment	42	20	20	30	35	33
		Use	13	6	11	8	7	9
756	9	Experiment	43	36	29	36	36	37
		Use	10	7	17	7	11	10
393	10	Experiment	47	28	35	41	34	39
		Use	15	13	6	8	19	12
468	11	Experiment	48	32	37	32	49	39
		Use	23	14	5	19	6	15
440	12	Experiment	50	29	44	42	55	46
		Use	18	22	17	14	15	16

Note: Percentages were rounded to the nearest whole number.

tobacco. Tobacco use by student athletes ranged from 1 percent in grade six to a high of 23 percent in grade eleven. Tobacco use for students participating in music/drama was highest for students in grades nine and twelve with 17 percent of students representing these two grades reporting they used tobacco. Twenty-two percent of the twelfth grade students involved in government/clubs reported they used tobacco. Student use was less for students who did not participate in extracurricular activities with the exception of tenth grade where 19 percent of students reported they used tobacco. Use for students participating in multiple activities was less than students who participated in athletics, music/drama, and government/clubs. Use for students participating in more than one activity was highest in the eleventh grade with 19 percent of the students indicating they used tobacco.

The chi-square statistic generates an expected and actual value. Examination of the chi-square statistic revealed tobacco experimentation by student athletes exceeded predicted values. It was predicted 383 students would use tobacco. The actual number was 450 or 17 percent above the anticipated value (Table 3). Experimentation with tobacco by students participating in government/clubs, music/drama, and students involved in multiple activities was less than predicted, but within 4 percent of expected values. Tobacco experimentation for students not involved in extracurricular activities was only slightly less than anticipated with 390 students indicating they had experimented with tobacco compared to the expected value of 392.

Athletes and students involved in government/clubs were more likely to use tobacco than predicted. It was anticipated 100 student athletes would use tobacco. The actual number reported was 118 or 18 percent

TABLE 3
CHI SQUARE VALUES OF STUDENT EXPERIMENT AND USE OF TOBACCO ALCOHOL AND OTHER DRUGS BY ACTIVITIES

Substance	Count Expected	Athletics		Government Clubs		Music Drama		Multiple Activities		No Activity		Pearson Significance
		Exp.	Use	Exp.	Use	Exp.	Use	Exp.	Use	Exp.	Use	
Tobacco	Count	450	118	97	29	183	54	453	120	390	91	<.00000
	Expected	383	100	102	27	221	58	474	124	392	103	
Alcohol	Count	642	207	171	54	321	53	685	211	621	294	<.00000
	Expected	592	199	156	52	329	110	688	231	676	227	
Marijuana	Count	165	30	46	10	59	23	118	26	237	119	<.00000
	Expected	152	51	40	13	85	28	177	59	172	57	
Stimulants	Count	116	14	41	4	80	6	139	18	247	41	<.00000
	Expected	151	20	39	5	84	11	175	23	174	23	
Depressants	Count	67	5	19	3	45	3	69	14	162	29	<.00000
	Expected	88	13	23	3	49	7	102	15	101	15	
Inhalants	Count	192	30	44	3	92	11	174	27	293	65	<.00000
	Expected	191	33	50	9	107	18	223	38	224	38	
Hallucinogens	Count	57	15	21	3	27	29	39	28	159	88	<.00000
	Expected	73	39	19	10	41	22	85	46	85	46	
Over the Counter Drugs	Count	164	21	48	5	103	18	210	31	302	58	<.00000
	Expected	199	32	52	8	112	18	232	37	231	37	
Cocaine	Count	30	17	5	0	25	11	19	24	93	44	<.00000
	Expected	42	23	11	6	23	13	48	27	48	27	

above what was anticipated. In terms of student participation in government/clubs, it was predicted 27 students would use tobacco; the actual number was 29 or 7 percent above what was anticipated. Students participating in music/drama, multiple activities, and students who did not participate in extracurricular activities were less likely to use tobacco than expected.

Alcohol

Alcohol is the drug of choice for students in grades five through twelve. In grade five, 18 percent of students reported they had experimented with alcohol (Table 4). Experimentation increased to 33 percent by grade six and continued to escalate where experimentation peaked at 59 percent in grade eleven. Use of alcohol increased from 5 percent in grade seven to 10 percent in grade eight. Use doubled from 23 percent in grade eleven to 46 percent in grade twelve. Experimentation and use of alcohol were widespread among all extracurricular groups. Over 25 percent of students in grade five who participated in athletics and music/drama reported they had experimented with alcohol. Fifty percent of the seventh grade students participating in athletics and government/clubs replied they had experimented with alcohol. Alcohol experimentation peaked in grade eleven with 63 percent of students participating in government/clubs, 59 percent of students in music/drama, and 46 percent of athletes reporting they had experimented with alcohol. Experimentation for students involved in more than one activity was 61 percent. Large increases in alcohol use were found for all groups from the eleventh to the twelfth grade. Alcohol use was highest for athletes. Use ranged from 13 percent for athletes in grade nine to 51 percent in grade twelve. Use for students involved in government/clubs and

TABLE 4
PERCENTAGES FOR ALCOHOL EXPERIMENTATION/USE BY ACTIVITY

N	Grade	Experiment Use	Athletics	Government Clubs	Music Drama	Multiple Activities	No Activity	Percentage Total Group
120	5	Experiment	26	0	25	21	15	18
		Use	0	0	0	0	11	6
831	6	Experiment	34	39	30	37	31	33
		Use	0	0	0	2	0	1
990	7	Experiment	50	50	36	38	39	42
		Use	8	0	2	3	8	5
978	8	Experiment	53	37	36	43	40	43
		Use	11	4	7	7	14	10
863	9	Experiment	56	49	52	45	47	50
		Use	13	9	6	12	18	13
470	10	Experiment	55	52	50	50	48	51
		Use	28	16	8	24	33	25
580	11	Experiment	46	63	59	61	63	59
		Use	34	15	15	22	23	23
614	12	Experiment	44	50	58	38	35	42
		Use	51	44	27	43	53	46

Note: Percentages were rounded to the nearest whole number.

students involved in multiple activities was similar with 44 percent of seniors participating in music/drama and 43 percent of students in more than one activity responding they used alcohol. Fifteen percent of the students in the eleventh grade who participated in government/clubs reported they used alcohol; use for seniors in the same category rose to 44 percent. Similar increases could be found for students involved in athletics, music/drama, and multiple activities. Thirty-five percent of those involved in athletics stated they used alcohol; 51 percent of senior athletes indicated they used alcohol. Alcohol use almost doubled, from 22 percent in grade eleven to 43 percent in grade twelve, for students involved in multiple activities. Alcohol use for students not involved in extracurricular activities was 23 percent in the eleventh grade and increased to 53 percent for seniors.

Based on the chi-square statistic, students in grades 5-12 participating in athletics and government/clubs were more likely to use alcohol than students participating in music/drama, multiple activities or students who were not involved in extracurricular activities. It was estimated 592 (5-12) students would experiment with alcohol. The actual number of students who indicated they had experimented with alcohol was 642 which exceeded the expected value by 8 percent. The expected number of students participating in government/clubs was 156, but the actual number of students who responded they experimented with alcohol was 171, exceeding predicted values by 10 percent.

Examination of alcohol usage in terms of extracurricular participation revealed athletes and students participating in government/clubs were more likely to use alcohol than expected. The expected count of usage for student athletes was 199 and the actual count 207, resulting in usage of 4

percent above what was anticipated. In terms of student government/club participation, it was expected 52 students would use alcohol. Fifty-four students reported they used alcohol. The actual count exceeded the expected count by 4 percent. Usage of alcohol for students participating in music/drama was less than expected. It was predicted 110 students would use alcohol; 53 responded they used alcohol. This was 52 percent under the expected value. Students participating in multiple activities were less likely to use alcohol. It was anticipated 231 students would use alcohol. The actual number was 211 or 9 percent less than expected. The expected count for students not participating in extracurricular activities was 227; whereas, the actual number of students who indicated they used alcohol was 294. The number of students who were using alcohol and not participating in extracurricular activities exceeded the expected count by 30 percent.

Marijuana

Students were questioned regarding marijuana experimentation and use. Marijuana was defined in the survey as hashish, hash, oil, grass, and/or pot. Examination of data revealed over 11 percent of the students had experimented with marijuana and 4 percent of the 5,639 students continued to use marijuana. Examination of student experimentation by grade revealed experimentation in the eighth grade at 8 percent. Student experimentation with marijuana continued to increase through the twelfth grade with 27 percent of seniors representing all groups reporting they experimented with marijuana (Table 5).

Student experimentation and use of marijuana varied with activity and grade level and continued to increase through grades 5-12. In grade eight, 14 percent of students who were not involved in extracurricular activities indicated experimentation with marijuana. Use was 4 percent. Eleven

TABLE 5
PERCENTAGES FOR MARIJUANA EXPERIMENTATION/USE BY ACTIVITY

N	Grade	Experiment Use	Athletics	Government Clubs	Music Drama	Multiple Activities	No Activity	Percentage Total Group
119	5	Experiment	0	0	0	0	8	4
		Use	0	0	0	0	2	1
832	6	Experiment	1	3	1	2	2	2
		Use	1	0	0	1	0	0
993	7	Experiment	3	0	3	1	4	3
		Use	0	2	1	1	3	1
983	8	Experiment	11	2	7	3	14	8
		Use	0	0	2	0	4	1
865	9	Experiment	14	3	13	8	17	13
		Use	5	3	2	1	13	5
462	10	Experiment	18	18	10	11	29	18
		Use	5	2	4	3	13	6
578	11	Experiment	29	25	15	12	33	23
		Use	3	3	8	2	6	4
584	12	Experiment	35	30	15	26	26	27
		Use	7	8	14	8	27	14

Note: Percentages were rounded to the nearest whole number.

percent of eighth grade students participating in athletics reported they had experimented with marijuana. Experimentation with marijuana by students involved in athletics continued to rise through the twelfth grade. Thirty-five percent of student athletes in the twelfth grade reported they had experimented with marijuana. Use among student athletes was 7 percent.

While students participating in athletics and students not involved in extracurricular activities seemed to begin using marijuana at an earlier age, experimentation for students in all other extracurricular activities increased to 10 percent or above by the tenth grade. Eighteen percent of students in grade ten participating in government/clubs indicated they experimented with marijuana. Experimentation for government/clubs peaked at 30 percent for these students in grade twelve. Marijuana use by government/clubs students ranged from 2 percent in grade ten to 8 percent in grade twelve.

Marijuana experimentation for students in music/drama ranged from 13 percent in grade nine to 15 percent in grade twelve. Marijuana use was highest for seniors who participated in music/drama with 14 percent of the students reporting they used marijuana. Marijuana experimentation for students participating in multiple activities ranged from 8 percent in grade nine to 26 percent for students in the twelfth grade. Eight percent of the seniors participating in more than one activity indicated marijuana use.

Marijuana use was greatest for students who did not participate in extracurricular activities. Use for students not participating in extracurricular activities ranged from 4 percent in grade eight to 27 percent in grade twelve.

Exploration of the chi-square statistic revealed marijuana experimentation exceeded anticipated values for students involved in

athletics, government/clubs, and students who did not participate in extracurricular activities. It was predicted 152 student athletes would experiment with marijuana; the actual count was 165 or 9 percent above the anticipated value. The expected count for students participating in government/clubs was 40 students; 46 students or 15 percent in excess of the predicted value indicated they had experimented with marijuana. As a group, marijuana experimentation was lowest for students who participated in music/drama. It was anticipated 85 students would experiment with marijuana; the number of students who reported they had experimented was 59 or 44 percent less than projected. The expected count for students who were participating in more than one extracurricular activity was less than anticipated. It was predicted that 177 students involved in more than one activity would experiment with marijuana; 118 students or 50 percent below the anticipated value responded they had experimented with marijuana. Experimentation for students not participating in extracurricular activities exceeded the expected count. It was predicted 172 students indicated they experimented with marijuana. The actual number was 237 or 38 percent above what had been predicted.

Marijuana use was less than predicted for students participating in athletics, government/clubs, music/drama, and multiple activities; however, marijuana use for students who had not participated in extracurricular activities exceeded the predicted values by 109 percent. It was predicted 57 students would use marijuana; 119 students who did not participate in extracurricular activities reported they used marijuana.

Stimulants and Depressants

Students were also questioned on the use of stimulants. Stimulants were described in the survey as amphetamines, dexedrine, diet pills, speed,

and uppers. Experimentation with stimulants was 9 percent in grade eight and increased to 20 percent for students in grade twelve (Table 6). Use of stimulants was 2 percent in grades 9, 10, 11, and 12.

Examination of use by extracurricular activity suggested experimentation for each of the three extracurricular activities to be in the same range, although experimentation was highest for music/drama students in grades 8, 9, 10, and 12. Experimentation for music/drama students was reported as 12 percent for students in grade eight, 11 percent for ninth grade students, 14 percent for tenth grade, and 27 percent for students in grade twelve. Experimentation with stimulants for students not participating in extracurricular activities was greater for all grades except seniors. Stimulant experimentation ranged from 16 percent in grade eight to 25 percent in grade eleven.

Stimulant use for students not participating in extracurricular activities ranged from 3 percent in grade nine to 5 percent in grade twelve. Stimulant use peaked in grade eleven with 2 percent of students who participated in athletics, government/clubs, music/drama, and multiple activities reporting they used stimulants.

Experimentation and use were generally less than predicted for students who participated in extracurricular activities than their counterparts who did not participate. The exception to this finding was for students involved in government/clubs. It was predicted 39 students would experiment with stimulants; the actual number was 41. It was predicted 174 students who did not participate would experiment with stimulants. The actual number was 247 or 42 percent beyond what had been anticipated. In terms of student use of stimulants, it was estimated 23 students would use stimulants; the actual number was 41 or 78 percent

TABLE 6
PERCENTAGES FOR STIMULANT EXPERIMENTATION/USE BY ACTIVITY

N	Grade		Athletics	Government Clubs	Music Drama	Multiple Activities	No Activity	Percentage Total Group
120	5	Experiment	0	0	0	5	14	8
		Use	0	0	0	0	3	2
833	6	Experiment	4	3	3	4	3	3
		Use	1	0	0	1	0	1
990	7	Experiment	5	2	4	6	7	6
		Use	1	2	1	0	0	1
987	8	Experiment	7	6	12	4	16	9
		Use	0	0	1	1	3	1
869	9	Experiment	9	7	11	9	24	13
		Use	3	0	1	2	3	2
469	10	Experiment	14	11	14	11	22	15
		Use	1	2	2	1	5	2
581	11	Experiment	18	20	15	18	25	20
		Use	2	2	2	2	4	2
620	12	Experiment	18	23	27	15	20	20
		Use	0	1	1	1	5	2

Note: Percentages were rounded to the nearest whole number.

above what had been predicted for students not participating in extracurricular activities.

Similar values were gleaned from student responses for depressants experimentation and use. Depressants were defined in the survey as barbituates, tranquilizers, downers, sleeping pills, and/or reds. Experimentation and use of depressants were not as pervasive as stimulants usage. Eight percent of students in music/drama and 8 percent of students who did not participate in extracurricular activities reported experimentation with depressants (Table 7). Experimentation with depressants by athletes was generally lower than for students participating in other extracurricular activities except for 13 percent of the senior athletes who responded they had experimented with depressants. Use was less than 1 percent by senior athletes. As a group, experimentation was highest for music/drama students in grades 8, 9, and 11. Experimentation with depressants by students not participating in extracurricular activities either tied or exceeded values for students who participated in extracurricular activities. Experimentation was greatest for students not participating in extracurricular activities with 19 percent of students in grade nine and 18 percent of students in grade twelve indicating experimentation with depressants.

Review of chi-square values suggested student experimentation and use of depressants for students participating in athletics, music/drama, and government/clubs were less than predicted. Experimentation and use of depressants for students not involved in extracurricular activities exceeded predicted values. It was anticipated 101 students would experiment with depressants; experimentation was exceeded by 60 percent as 162 students who did not participate in extracurricular activities

TABLE 7
PERCENTAGE S FOR DEPRESSANT EXPERIMENTATION/USE BY ACTIVITY

N	Grade	Experiment Use	Athletics	Government Clubs	Music Drama	Multiple Activities	No Activity	Percentage Total Group
119	5	Experiment	0	0	0	0	3	2
		Use	0	0	0	5	0	1
833	6	Experiment	3	3	2	1	2	2
		Use	0	0	0	1	0	0
993	7	Experiment	3	4	2	3	6	4
		Use	0	0	1	0	1	0
990	8	Experiment	5	6	8	3	8	6
		Use	0	0	0	2	3	1
871	9	Experiment	5	3	9	6	19	9
		Use	1	3	1	0	2	1
473	10	Experiment	6	9	4	9	9	8
		Use	1	2	0	1	6	2
575	11	Experiment	4	3	12	7	12	8
		Use	0	0	0	2	1	1
619	12	Experiment	13	7	8	5	18	12
		Use	0	1	1	0	2	1

Note: Percentages were rounded to the nearest whole number.

reported they experimented with depressants. Similar usage patterns emerged for students who were not involved in extracurricular activities. It was predicted 15 students would use depressants; 29 students or 93 percent beyond what was expected indicated they used depressants.

Inhalants

Students were also questioned on the use of inhalants including glue, gasoline, aerosols, poppers, and/or RUSH. Experimentation began as early as the fifth grade and was equally distributed among students participating in athletics, government/clubs, and music/drama. Experimentation ranged from 9 percent to 17 percent for the entire sample with no clear pattern of experimentation for grade levels or extracurricular activities (Table 8). As a group, experimentation was normally higher for students involved in athletics with a range of 13 to 18 percent for students in grades 7-12. The highest percent of experimentation was reported by eleventh grade students involved in music/drama with 24 percent of students reporting they had experimented with inhalants. Inhalant use ranged from 1 to 3 percent for all students who participated in the survey. Seven percent of students participating in music/drama indicated they used inhalants. Percentages of students who experimented with inhalants and did not participate in extracurricular activities were higher than students who did participate. Experimentation for this group extended from 7 to 28 percent. Use was highest in the eleventh grade with 7 percent of the students reporting they used inhalants.

Examination of chi-square values revealed the acutal number of athletes experimenting with inhalents exceeded the predicted value. It was anticipated 191 student athletes would experiment with inhalants; the number of students who indicated they had experimented was 192. Use of

TABLE 8
PERCENTAGES FOR INHALANT EXPERIMENTATION/USE
BY ACTIVITY

N	Grade	Experiment Use	Athletics	Government Clubs	Music Drama	Multiple Activities	No Activity	Percentage Total Group
121	5	Experiment	0	25	0	11	18	12
		Use	3	0	0	5	2	3
833	6	Experiment	8	11	9	10	7	9
		Use	1	3	1	2	0	1
977	7	Experiment	15	13	11	13	15	14
		Use	4	0	0	0	4	2
994	8	Experiment	18	12	10	11	19	15
		Use	3	0	1	2	5	3
878	9	Experiment	13	12	15	13	27	17
		Use	1	0	1	2	6	3
476	10	Experiment	16	16	10	12	28	17
		Use	1	0	2	1	4	2
585	11	Experiment	18	10	24	10	18	15
			3	2	0	2	7	3
627	12	Experiment	18	14	13	7	23	16
		Use	1	1	7	1	0	1

Note: Percentages were rounded to the nearest whole number.

inhalants by athletes was less than anticipated. Values for students involved in music/drama and government/clubs were lower than predicted for both experimentation and use. Actual chi-square values of inhalant experimentation and use for students not involved in extracurricular activities exceeded predicted numbers. It was anticipated 224 students would have experimented with inhalants; the actual number reported was 293 or 31 percent above what had been predicted. In terms of inhalant use, it was estimated 38 students who did not participate in extracurricular activities would use inhalants; 65 students or 71 percent beyond the predicted value reported they used inhalants.

Hallucinogens

Students were also questioned about the use of hallucinogens. Hallucinogens were described as LSD, peyote, mescaline, and PCP. Grade level patterns for experimentation ranged from 1 to 12 percent, with seniors reporting the greatest experimentation (Table 9). Seven percent of fifth grade students indicated they had experimented with hallucinogens; use was 2 percent. Experimentation and use for grade six were 1 percent. In terms of hallucinogen experimentation and use by extracurricular activity, no clear patterns could be established. For example, experimentation by athletes ranged from 5 percent for athletes in grade eight compared to 21 percent in grade eleven for students participating in music/drama. Use was highest for seniors involved in music/drama with 24 percent of students reporting they used hallucinogens. Students who did not participate in extracurricular activities reported generally higher levels of experimentation and use than their counterparts who did participate in school-related activities.

TABLE 9
PERCENTAGES FOR HALLUCINOGEN EXPERIMENTATION/USE BY ACTIVITY

N	Grade	Experiment Use	Athletics	Government Clubs	Music Drama	Multiple Activities	No Activity	Percentage Total Group
121	5	Experiment	3	0	0	5	10	7
		Use	3	0	0	0	2	2
832	6	Experiment	2	3	1	1	1	1
		Use	1	0	0	2	1	1
997	7	Experiment	2	0	2	1	2	1
		Use	0	2	0	0	2	1
995	8	Experiment	5	0	3	1	6	3
		Use	1	0	1	1	2	1
879	9	Experiment	6	6	7	4	14	8
		Use	1	0	1	0	8	3
475	10	Experiment	9	5	4	4	16	8
		Use	0	2	4	1	7	3
585	11	Experiment	7	2	11	6	15	8
		Use	1	0	9	3	5	3
627	12	Experiment	2	21	0	4	26	12
		Use	4	1	24	7	13	10

Note: Percentages were rounded to the nearest whole number.

Review of chi-square statistics suggested students participating in government/clubs and students who did not participate in extracurricular activities were more likely to experiment with hallucinogens. It was predicted 19 students involved in government/clubs would use hallucinogens; 21 students indicated they had experimented with hallucinogens. For students who did not participate in extracurricular activities, the estimated chi-square value for experimentation was 85; the actual number of students who replied they had experimented with hallucinogens was 159 or 87 percent beyond the anticipated value. Examination of student use of hallucinogens suggested students involved in music/drama were more likely to use hallucinogens than predicted. It was anticipated 22 students would use hallucinogens; 29 students or 32 percent above the anticipated value reported they used hallucinogens. Use was also greater than expected for students not participating in extracurricular activities. It was estimated 46 students would use hallucinogens; 88 students or 91 percent beyond the expected value indicated they used hallucinogens.

Over-the-Counter Drugs

Students were questioned regarding misuse of over-the-counter drugs or diet pills, sleeping pills, tranquilizers, and alcohol-based cough medications. Experimentation spanned from 7 percent in grade six to 22 percent in grade twelve (Table 10). Examination by extracurricular activity revealed widespread misuse of over-the-counter drugs. For athletes, experimentation with over-the-counter drugs for the purpose of getting high ranged from 12 percent in grade nine to 17 percent in grades eleven and twelve. The range for students participating in government/clubs was 13 percent in grade nine and increased to 25 percent by grade twelve.

TABLE 10
PERCENTAGES FOR OVER-THE-COUNTER DRUG EXPERIMENTATION/USE BY ACTIVITY

N	Grade	Experiment Use	Athletics	Government Clubs	Music Drama	Multiple Activities	No Activity	Percentage Total Group
121	5	Experiment	3	0	0	11	21	13
		Use	7	0	0	0	0	2
835	6	Experiment	7	8	5	9	7	7
		Use	1	3	0	2	1	1
996	7	Experiment	14	6	9	10	11	11
		Use	1	2	1	0	3	1
992	8	Experiment	12	12	13	15	20	15
		Use	1	0	1	2	5	3
875	9	Experiment	12	13	12	14	26	16
		Use	2	0	2	0	5	2
472	10	Experiment	12	16	15	11	28	17
		Use	1	2	2	4	5	3
582	11	Experiment	17	10	17	20	24	19
		Use	3	2	11	4	4	4
627	12	Experiment	17	25	31	16	25	22
		Use	2	1	7	4	2	3

Note: Percentages were rounded to the nearest whole number.

Experimentation by students in music/drama was 12 percent in grade nine and peaked at 31 percent by grade twelve. Experimentation for students participating in multiple activities ranged from 9 to 20 percent. As a group, percentages of over-the-counter experimentation by students in grades 9-12 who did not participate in extracurricular activities were between 24 to 28 percent. Misuse of over-the-counter drugs was 11 percent for juniors and 7 percent for seniors who participated in music/drama.

Examination of chi-square values revealed student use for music/drama was the same as predicted, that 18 students would use. Values for experimentation and use fell below anticipated scores for other extracurricular activities. Chi-square values for students not participating in extracurricular activities exceeded predicted values for experimentation and use. It was predicted that 231 students would experiment with over-the-counter drugs; the actual number of students experimenting with over-the-counter drugs was 302 or 31 percent in excess of what had been anticipated. In terms of use, it was predicted 37 students would misuse over-the-counter drugs; the actual number was 58 or 36 percent beyond the anticipated value.

Cocaine

Students were also surveyed in reference to cocaine experimentation and use. Experimentation with cocaine ranged from 1 to 7 percent for the total sample. In grade nine, 6 percent of students participating in government/clubs, 5 percent of music/drama students, and 2 percent of the athletes indicated they had experimented with cocaine (Table 11). In grade twelve, 6 percent of the students participating in music/drama reported they had experimented with cocaine. Cocaine use was also highest for music/drama students in grade eleven with 9 percent of the eleventh grade

TABLE 11
PERCENTAGES FOR COCAINE EXPERIMENTATION/USE
BY ACTIVITY

N	Grade	Experiment Use	Athletics	Government Clubs	Music Drama	Multiple Activities	No Activity	Percentage Total Group
120	5	Experiment	0	0	0	0	8	4
		Use	0	0	0	0	3	2
833	6	Experiment	1	0	1	1	0	1
		Use	1	0	0	2	0	1
993	7	Experiment	2	2	1	0	1	1
		Use	1	0	0	1	1	1
990	8	Experiment	3	0	5	2	5	3
		Use	2	0	1	1	2	2
867	9	Experiment	2	6	5	2	7	4
		Use	0	0	0	2	5	2
474	10	Experiment	4	2	4	2	9	5
		Use	1	0	0	3	3	2
574	11	Experiment	4	2	2	2	6	4
		Use	1	0	9	1	3	2
622	12	Experiment	2	0	6	1	16	7
		Use	0	0	6	1	0	1

Note: Percentages were rounded to the nearest whole number.

students reporting they used cocaine. Six percent of the twelfth grade students who participated in music/drama reported they used cocaine. Sixteen percent of the seniors who did not participate in extracurricular activities reported they had experimented with cocaine. Less than 1 percent of the seniors who did not participate in extracurricular activities indicated they used cocaine.

Analysis of chi-square values revealed the number of music/drama student experimenting with cocaine exceeded anticipated values. It was predicted 23 music/drama students would experiment with cocaine; the actual number was 25. Actual values were less than predicted values for all other extracurricular activities. Students who did not participate in extracurricular activities were more likely to experiment and use cocaine than predicted. It was anticipated 48 students not participating in extracurricular activities would experiment with cocaine; the actual number was 93 or 94 percent above what was predicted. It was predicted 27 students would use cocaine. Forty-four students or 63 percent beyond the expected number reported they used cocaine.

Summary and Conclusions

Results of the study suggested extracurricular participation was a factor in reducing student experimentation and use of tobacco, alcohol and other drugs. Students who participated in extracurricular activities were less likely to use drugs than their counterparts who did not participate. Experimentation and use varied with the type of activity.

Athletes were more likely to experiment with tobacco than students participating in other extracurricular groups. Tobacco use for athletes eclipsed students in government/clubs and music/drama in grades ten and twelve. The drug of choice for athletes was alcohol. Half the student

athletes in the seventh grade indicated they had experimented with alcohol. Alcohol use by athletes was highest in grades eight through twelve with over half of the senior athletes indicating alcohol use. Over one third of senior athletes reported they had experimented with marijuana. Use was 7 percent. Inhalants were the only other drug where athletes were more likely to use than predicted. Experimentation and use of stimulants, depressants, hallucinogens, over-the-counter drugs, and cocaine by athletes were less than anticipated; although, usage patterns for athletes were similar to students involved in other extracurricular activities.

Students involved in government/clubs were more likely to use tobacco than their counterparts in music/drama or multiple activities. Tobacco use was highest for seniors with 22 percent of the students participating in government/clubs reporting they used tobacco.

Alcohol experimentation and use for students participating in government/clubs exceeded anticipated values. Over 63 percent of the students in grade eleven reported they used alcohol. This was the highest level of alcohol use reported for students that participated in extracurricular activities. Alcohol use for government/clubs students nearly tripled for students from the eleventh to twelfth grade.

Marijuana experimentation was also higher than predicted for students participating in government/clubs. Marijuana experimentation ranged from 18 percent in grade ten to 30 percent in grade twelve. Marijuana use peaked in grade twelve at 8 percent.

Students participating in music/drama were more likely to use hallucinogens than predicted. Hallucinogen experimentation in grade eleven was 11 percent; use was 9 percent. Surprisingly, over 24 percent of seniors participating in music/drama reported they used hallucinogens.

Music/drama students demonstrated a strong tendency to misuse over-the-counter drugs. Both the anticipated and actual value were the same. Over 31 percent of seniors indicated they had experimented with over-the-counter drugs. Use was reported as 7 percent. The highest percentage for the misuse of over-the-counter drugs was reported for music/drama students. Experimentation for eleventh grade students was 17 percent and increased to 31 percent by grade twelve. Use was 11 percent for students in grade eleven and decreased to 7 percent in grade twelve. Alcohol use was lower for twelfth grade students who were involved in music/drama than for any other group. Twenty-seven percent of the students indicated they used alcohol.

A number of students were involved in multiple activities. For each drug surveyed, student experimentation and use were below anticipated values; although, this should not be interpreted to mean this group did not use alcohol, tobacco, and other drugs but that use was generally less than predicted. Student alcohol use was generally lower than their peers involved in singular activities.

Students who were not involved in extracurricular activities were more likely to experiment and use marijuana, stimulants, depressants, inhalants, hallucinogens, over-the-counter drugs and cocaine than predicted. These students were also more likely to use alcohol than anticipated. The actual count in most instances far exceeded anticipated values.

Tobacco, alcohol and other drugs continue to plague American schools. Results of the study reinforced the importance of student participation in extracurricular activities. Participation should be heralded as a guarantee against tobacco, alcohol or other drug use. The study suggested different

experiment and use patterns by the various subgroups. Results of the study may provide educators the necessary data to fine tune educational programs for students who participate in extracurricular activities. The study suggests educators must establish programs to deal with high levels of experimentation and use for students who do not participate in extracurricular activities.